

HEMI-SYNC® INTO CREATIVITY

by Chok C. Hiew, Ph.D.

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Hemi-Sync proponents have long assumed that this sound technology is linked to the intuitive process and that one of its benefits is enhanced creativity. There is plenty of self-reported and anecdotal evidence that one effect of Hemi-Sync is a shift to a more creative state. Yet, to date, there has not been a single published scientific study objectively demonstrating this relationship.

Premise

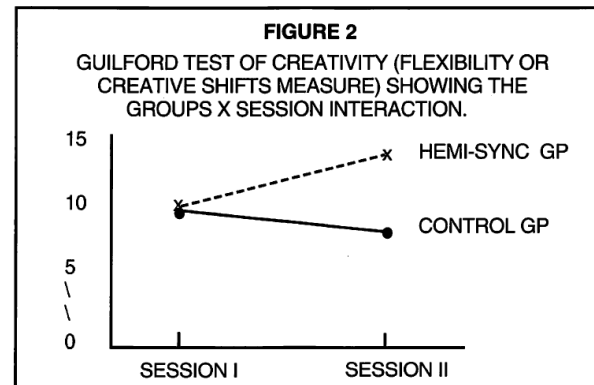
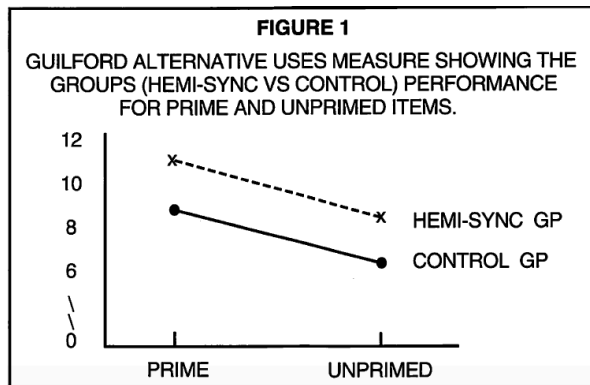
This paper reports a pilot study designed to test the impact of Hemi-Sync audiotapes on creative responses and divergent thinking. Two Hemi-Sync tapes were used. In Session I, the *Deep 10 Relaxation* tape was used to induce a deep state of physical and mental relaxation. In Session II, after repeating the *Deep 10* tape for the first 6.5 minutes, subjects spent the remainder of the session listening to the *Surf* tape. *Surf* consists of the sounds of ocean waves and Hemi-Sync with no verbal instructions. It was predicted that after listening to this Hemi-Sync tape in Session II, subjects would show the best performance when evaluated for creativity.

Design of Study

College students from an introductory psychology course were randomly assigned to an experimental (Hemi-Sync, n = 10) or a control group (n = 9). The subjects presented themselves in the sleep lab in two sessions separated by a week in time. The Hemi-Sync Group listened to the tapes described above. The Control Group listened to the same tapes without the Hemi-Sync tones. Both groups listened to *Deep 10 Relaxation* in Session I and a combination of partial *Deep 10* (for the first 6.5 minutes) followed by the entire *Surf* tape in Session II.

Evaluation Measures

After listening to the tapes, subjects were evaluated in several ways. In Session I, a Subjective Experience Questionnaire was completed to assess how subjects felt about the experience. The Guilford Test of creativity was then administered. Common objects were named (e.g., pencil, shoe, button, etc.) and subjects responded by listing as many alternate uses for these objects as possible. Three objects were presented prior to listening to the tape (Prime items), and three others were presented after the tape (Unprimed items). In Session II, the same tests were administered with the addition of a Doodles Test. Subjects were asked to draw a doodle representing what they were thinking about while listening to the tape.



Scoring

The items in the Subjective Experience Questionnaire were rated by subjects on a seven-point scale. In the Guilford Test, responses were coded in three ways:

1. **Alternate Uses:** Refers to the frequency of acceptable alternate uses for each object. Inappropriate and redundant uses were not counted.
2. **Fluency:** Refers to the total responses, including redundant responses. It is a measure of the speed of producing responses.
3. **Flexibility:** Refers to the frequency of creative shifts in the different use categories for each object.

The Doodles Test in Session II was coded by rating each doodle in terms of its degree of divergence from a single theme, i.e., how different was the drawing from the original theme or experimental situation. In this case, the situation was a subject lying on the floor listening to the sounds of ocean waves. Other dimensions, such as complexity, abstractness, and artistry were ignored. A five-point rating scale was used to code for the degree of divergent thinking.

Results

1. Subjective Experience Questionnaire

In general, subjects in both sets of conditions and both sessions found the tapes to be positive experiences as well as highly relaxing. However, the Session I *Deep 10* tape (regardless of the presence or absence of Hemi-Sync tones) was significantly more positive and more relaxing than *Surf*. Within each session, no difference was found between the Hemi-Sync and the Control subjects. For an item rating whether they slept during the tape, Session II subjects listening to *Surf* were more likely to feel that they were awake than when listening to *Deep 10* in Session I. Overall, these findings suggest that Session II subjects listening to the *Surf* tape were awake but relaxed prior to the creativity tests.

2. Guilford Test of Creativity

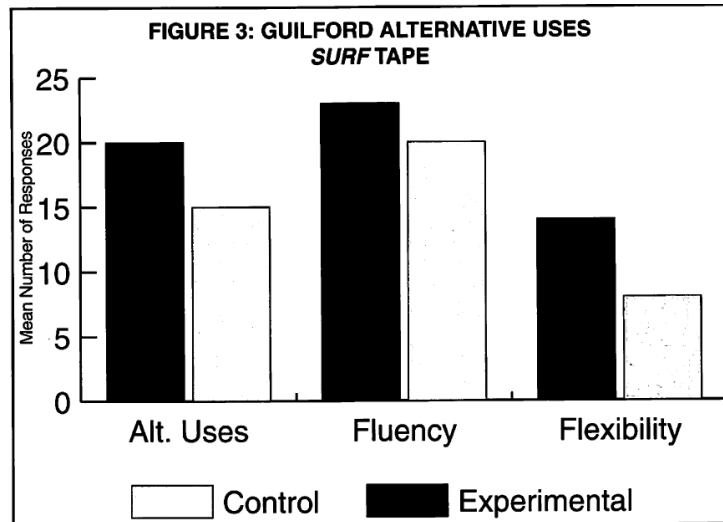
Subjects' responses were rated by two raters (with one being totally blind to the conditions), and the inter-rater agreement for the various groups ranged from .89 to .96. The Multiple Analysis of Variance (MANOVA) was conducted using a General Linear Models procedure with Repeated Measures to test the hypothesis. The significant findings were:

- * Alternate Uses: There was a significant Sessions effect with subjects improving from Session I to II. The Groups Main effect was also significant for the number of acceptable responses, indicating that Hemi-Sync subjects were generating more uses than the Control subjects. For Prime versus Unprimed scores, a highly significant mean effect for Groups was found. For both Prime and Unprimed items, the Hemi-Sync subjects were generating more responses compared to the Control subjects.

- * Fluency: The total number of responses (ignoring repetitions of similar uses) did not show a significant difference. This implied that in terms of speed of production of creative responses, the Hemi-Sync subjects were no faster than the Controls.

- * Flexibility: There was a significant Groups Main effect, with the Hemi-Sync Group showing a higher number of creative "shifts" in categories of uses than the Controls. Furthermore, there was a Groups x Sessions interaction. Here, Hemi-Sync subjects generated more "shifts" or a greater degree of flexibility from Session I to Session II, whereas the opposite trend was found for the Control Group.

Basically, the Hemi-Sync tones predictably increased the generation of alternate uses and category shifts (but not the speed of production) according to the Guilford creativity measures.



3. Doodles Test of Creativity

Please note that the coding scheme for evaluating doodles was developed post hoc, after conducting the study. However, the rating scheme was highly reliable since there was almost perfect agreement between the author and another rater blind to the conditions ($r = .90$).

It was clear that the doodles from the Hemi-Sync subjects were on themes that differed distinctly from the experimental theme (listening to ocean waves). In contrast, the doodles of most subjects in the Control Group focused predominately on a single theme, i.e., drawings of waves with sun and clouds and/or bodies lying on the ground/beach.

During the presentation of this study at The Monroe Institute's 1994 Professional Seminar, twenty participants from the audience were co-opted as raters and all had mean scores that were consistently greater in divergent thinking for Hemi-Sync subjects than the Controls.

Discussion

This exploratory study confirmed the prediction that not only do Hemi-Sync tapes (specifically *Deep 10 Relaxation*) produce a deep state of relaxation in the users but also a unique quality of Hemi-Sync (specifically *Surf*) is the enhancement of a creative state. The Doodles Test demonstrated that when listening to Surf with Hemi-Sync tones embedded, subjects apparently thought about matters far removed from the actual physical and auditory situation. Their thinking was highly divergent. This state subsequently seemed to produce improved performance in creativity. Performance during the Guilford Test showed that they were indeed more creative in the sense of responding with more alternate acceptable uses. In addition, they reliably generated more creative "shifts" in the number of unique categories of uses after listening to the *Surf* tape.

While these results provide some evidence of the impact of Hemi-Sync on creativity, this first study is exploratory in nature. Further research is planned with a larger sample of subjects. It will incorporate baseline measures of creativity prior to Hemi-Sync intervention together with other measures of creative problem-solving.

(Dr. Hiew expresses his heartfelt thanks to his colleague Dr. Donald Fields for making this study a reality through his "C-1" support and supervision of Julie MacPherson in data collection and also to Dan Hare for his assistance in data analysis. A replication of this study incorporating Remembrance is in progress.)

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